

## Observations on *Phoebis Sennae* (Pieridae)

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In San Diego County *Phoebis sennae marcellina* (Cramer) is not a common butterfly (Emmel & Emmel, 1973, Butterflies of Southern California, Natural History Museum of Los Angeles County). In occasional years a fair number may fly through in late summer or fall and become temporarily established. They generally die out during the winter, and *P. sennae* becomes extremely scarce again for several years.

In mid-September 1976 a large storm, hurricane Kathleen, struck the coast of Baja California and deposited several inches of rain throughout Baja and southern California. By the first of October *P. sennae* had become quite common in the extreme southwestern corner of San Diego County. From 6 to 20 were seen daily, flying due North at a rapid pace, seldom stopping to visit flowers. They continued to pass by for about three weeks, gradually becoming less abundant. Five specimens were captured during this time: four males (Sept. 30, Oct. 1, 10, 23) and one female (Oct. 1). Three of the specimens were quite worn. Since *P. sennae* is known to migrate in the tropics (Klots, 1951, Field Guide to the Butterflies, Houghton Mifflin Co., Boston), I assume that these adults were migrating. I was quite surprised to find that the undersides of the male specimens were very plain, almost the same as in the eastern subspecies *eubule*. The female was albinic, as were several other females I observed. Also, Fred Thorne, a resident of El Cajon, reported observing albinic females ovipositing on *Cassia* sp. in his yard in mid-October. However, none of the typical yellow-orange *marcellina* females were observed.

During the second week of November, *P. sennae* was once again abundant. From 15 to 35 individuals were seen daily for about the next two months. The number dwindled gradually. Most of these, but not all, were flying northward. Many of them visited the Red Cape Honeysuckle (*Tecomaria capensis*) near my home. The following were captured with no difficulty:

Date	Males	Females
Nov. 8	3	2
Nov. 10	1	3
Nov. 18	1	
Nov. 29		1
Dec. 1	1	
Dec. 10	1	1
Dec. 28		1
Jan. 17	1	

Since there had been no more of the southern storms which occasionally "blow" odd material into this area, and since many of these specimens were quite fresh, this brood was probably progeny of the *P. sennae* that came through in late September and October. Fred Thorne's observations of ovipositing females also strengthen this assumption.

The undersides of this locally produced brood were very heavily marked as in typical *P. sennae marcellina* that is occasionally taken in this area. None of the females were albinic. The first *P. sennae* to fly through must have been *marcellina* to judge from their apparent offspring, and not *eubule* as they appeared to be.

*P. sennae marcellina* is generally characterized as the western subspecies with much heavier markings on the ventral surface of the wings. However, I found this to be true only with the locally produced brood.

By the end of February *P. sennae* had disappeared. All spring and summer I waited for another locally produced brood that never materialized.

During a collecting trip to southern Arizona in early August of 1977 I collected many *P. sennae*. All the females were albinic and all the males had the very plain ventral surface. From these few observations it appears that *P. sennae marcellina* in the southwestern United States has two seasonal forms: (1) plain ventral surfaced males and albinic females flying in summer and fall, and (2) typical heavily marked males and typical yellow-orange females in a late fall or winter brood.